Postprint of the Proposal on Establishing the "Xiong' an World Innovation Development Expo"

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Abstract

China lacks an expo that can comprehensively reflect China' s achievements in technological innovation, manufacturing, and the new economy, particularly one that can lead the direction of global industrial development, similar to Germany' s Hannover Messe. The "Xiong'an World Innovation Development Expo"focuses on themes at the forefront of the new industrial revolution and high-end manufacturing development, including technological innovation, digital economy, intelligent manufacturing, green manufacturing, and service-oriented manufacturing. It aims to showcase to the international community China' s achievements in technological innovation, high-end manufacturing, and new economic development, promote China' s concepts of technological innovation and industrial development, enhance China' s leadership in science and technology, industrial standards, and technological roadmaps, and expand the international influence of "Made in China"and Chinese solutions. Planning and establishing the "Xiong' an World Innovation Development Expo"is of great significance for both advancing "Made in China" to the mid-to-high end and the construction of the Xiong' an New Area. It aligns with the developmental positioning of the Xiong' an New Area, has successful domestic and international experiences to draw upon, and should be coordinated and planned from perspectives including planning, construction, organization, publicity, and industrial development.

Full Text

Introduction

The establishment of the Xiongan New Area represents a "millennium strategy and national priority." Drawing on domestic and international experience, a world-class high-end exhibition platform can significantly drive the construction and development of a new district or city. Planning and establishing the "Xiongan International Innovation and Development Expo," focused on technological innovation and high-end manufacturing, aligns with Xiongan' s development

orientation and can draw upon successful experiences from around the world. Such an expo holds great significance for implementing innovation-driven development concepts, showcasing the achievements of China' s innovation-driven development and manufacturing power strategy, accelerating Xiongan' s construction, enhancing its image, promoting factor agglomeration, and cultivating new growth drivers in the Beijing-Tianjin-Hebei region. Therefore, planning and layout for this expo—including infrastructure, exhibition hall design, and exhibition concepts—must be integrated into Xiongan' s planning phase.

The Theme and Positioning of the "Xiongan International Innovation and Development Expo"

China currently hosts several international expositions related to technological innovation and manufacturing development, such as the China International High-tech Fair (CHTF), which focuses on advanced technologies and products in fields like environmental protection, new-generation information technology, biotechnology, high-end equipment manufacturing, new energy, new materials, and new-energy vehicles; the China International Industry Fair, which emphasizes exhibition and trading of equipment manufacturing; and the China Import and Export Fair (Canton Fair), a crucial platform for Chinese commodity exports. However, after nearly 40 years of reform and opening up, despite China' s economic achievements—reaching 74 trillion RMB in economic scale, ranking second in the world; becoming the largest global industrial, manufacturing, and commodity exporter; surpassing $8,000 in per capita GDP, entering the ranks of upper-middle-income countries; and leading the world in R&D intensity, international patent applications and grants, and scientific publications—China still lacks a comprehensive exhibition platform like Germany' s Hannover Messe that can fully reflect China' s achievements in scientific and technological innovation, manufacturing, and the new economy, particularly one that can guide global industrial development directions. Planning the "Xiongan International Innovation and Development Expo" in Xiongan can fill this gap.

Aligned with Xiongan' s development goals, positioning, and philosophy, the "Xiongan International Innovation and Development Expo" should focus on frontier themes of the new industrial revolution and high-end manufacturing development, including technological innovation, digital economy, intelligent manufacturing, green manufacturing, and service-oriented manufacturing. It aims to demonstrate to the international community China' s achievements in scientific and technological innovation, high-end manufacturing, and new economic development, promote China' s concepts of scientific and technological innovation and industrial development, strengthen guidance on China' s scientific, technological, and industrial standards and technical routes, and expand the international influence of "Made in China" and Chinese solutions. The expo should be positioned as China' s only world-influential exhibition highlighting themes of technological and high-end manufacturing innovation and development. Its functions should extend beyond exhibition, influence expansion, and

sales promotion to more importantly building consensus, strengthening cooperation, and guiding directions. It is recommended to hold the first "Xiongan International Innovation and Development Expo" in 2020, subsequently every two years, with each session focusing on a specific theme of technological innovation and high-end manufacturing development.

Significance of the "Xiongan International Innovation and Development Expo"

For China's Manufacturing Sector

A new round of global technological and industrial revolution is emerging, with information technologies such as big data, cloud computing, the Internet of Things, new-generation mobile internet, 3D printing, virtual reality, and artificial intelligence maturing and expanding in application. During each technological and industrial revolution, disruptive new technologies continuously emerge, reconstructing industrial systems, structures, and global industrial patterns. Historically, every industrial revolution or disruptive innovation outbreak period has presented opportunities for latecomer countries to catch up—for example, the United States surpassed Britain to become the world's leading economic power during the electrical revolution, while Japan and South Korea became industrial powers during the information revolution. Similarly, for developed countries, leveraging first-mover advantages can help them shake off competitors and seize commanding heights in international economic competition. Represented by Germany's "Industry 4.0," America's "Industrial Internet," and Japan's "Society 5.0," major countries worldwide have introduced various policies to seize opportunities in new technologies and industries, leading to competition among nations and enterprises around standards, platforms, and ecosystems for these disruptive technologies.

The formation of new technical standards, platforms, and ecosystems requires not only technological leadership but also strong support from users, supporting enterprises, and upstream and downstream enterprises. Technologies supported by more users and related enterprises are more likely to ultimately win, becoming dominant industry technical standards and forming industry-leading platforms and ecosystems. History offers many examples of technologically superior solutions that ultimately failed in the market, largely because they failed to gain user and enterprise support. A typical case is the videocassette recorder standard war. Sony and JVC launched Betamax and VHS home video systems in 1975 and 1976, respectively. Despite Betamax's first-mover advantage and superior performance, it ultimately lost the standards war, partly because it lacked third-party support. Betamax had only a handful of supporters including Sony, Sanyo, and Toshiba, while the VHS system was backed by a large group of enterprises including JVC, Mitsubishi, Panasonic, Hitachi, Sharp, and Akai.

Although China has significantly narrowed the technology gap with developed

countries in traditional industries and formed many unique technological advantages in emerging industries—with major scientific achievements such as Tiangong, Jiaolong, FAST, Wukong, Mozi, and the domestically-produced large aircraft, and globally leading business model innovations in e-commerce, mobile payments, and bike-sharing— "Made in China" still carries a low-end image both internationally and domestically. This reflects both actual gaps in technological and product quality levels and entrenched perceptions formed by inadequate promotion. In emerging industries, particularly the digital economy, enterprises' market positions heavily depend on user bases that eventually create "winner-take-all" dynamics. Therefore, the low-end image of "Made in China" is particularly disadvantageous for Chinese enterprises seeking support for disruptive technical routes, standards, platforms, and strategic emerging industries.

Establishing the "Xiongan International Innovation and Development Expo" would help showcase the tremendous achievements of China' s manufacturing power strategy and change the world's entrenched perception of "Made in China" as low-end. More importantly, by transforming the image of Chinese manufacturing—especially by promoting China' s frontier achievements in strategic emerging industries—the expo would help Chinese disruptive technologies gain more support from domestic and international users, supporting manufacturers, and upstream and downstream enterprises. The expo would also serve as a platform for enterprise exchange, enabling Chinese enterprises to gain user resources and find partners through innovation displays, accelerating the expansion of user bases, increasing complementary products, building supply systems, and forming and improving industrial ecosystems centered on their own technologies and platforms, thereby gaining discourse power in international competition in disruptive technologies and strategic emerging industries.

For Xiongan New Area Construction

Xiongan New Area bears the tasks of centrally relieving Beijing of non-capital functions, exploring new models for optimizing development in densely populated areas, adjusting and optimizing Beijing-Tianjin-Hebei' s urban layout and spatial structure, and cultivating new engines for innovation-driven development. Xiongan' s development requires not only better government roles in promoting infrastructure construction and facilitating capital, talent, and project agglomeration but, more importantly, leveraging the market' s decisive role in resource allocation. The sustained and healthy development of industries is based on a sound industrial ecosystem, which includes various participants such as universities, research institutions, raw material suppliers, core producers, complementary input producers, complementary product producers, intermediary organizations, and consumers related to product R&D, production, and application. As Pisano and Shih noted, industrial development potential depends on various resources including R&D know-how, engineering skills, technological capabilities, and specific production, processing, and prototyping capabilities. These resources are embodied in the "industrial commons" formed by many manu-

facturing enterprises, service enterprises, and institutions such as universities and vocational-technical schools. Competition among countries and regions in strategic emerging industries is essentially competition among industrial ecosystems—those that can first establish complete industrial ecosystems will seize the initiative in industrial development.

As a "millennium strategy and national priority," Xiongan New Area already enjoys widespread recognition, but its pillar industries remain unclear. Hosting the "Xiongan International Innovation and Development Expo" would essentially establish a high-level, international, comprehensive platform. On one hand, it would accelerate local infrastructure construction, stimulate development in service industries such as catering, accommodation, shopping, communications, and finance, promote commodity trade and circulation, and strengthen information, knowledge, and technology exchange. On the other hand, it would also promote Xiongan' s industrial positioning during this process—an industrial positioning aligned with the expo theme would better attract domestic and international investment and agglomerate various factors, thereby accelerating the improvement of the industrial ecosystem. Meanwhile, the exhibition economy is a green, low-carbon industry, also meeting Xiongan' s development requirement of "prioritizing ecology and pursuing green development." Therefore, holding a world innovation and development expo in Xiongan can serve as an international platform to showcase innovation achievements in Xiongan and across China, help attract innovation factor resources, promote the agglomeration of high-end industrial talent, enterprises, and institutions, and consequently drive the development of high-precision manufacturing and service industries, making Xiongan a new urban development model that is innovation-active, industrially prosperous, integrated, and ecologically beautiful.

International Experience in Promoting Development Through Expositions

Hannover Messe, Germany

The first Hannover Messe was held in 1947 to showcase Germany' s post-WWII economic recovery and "Made in Germany" products suitable for export. The inaugural expo signed as many as 1,934 orders and business contracts totaling approximately $31.6 million, achieving tremendous success. In 1961, the name "Hannover Messe" was officially adopted, and it rapidly became an international platform for technology and industry exchange. Operated by Deutsche Messe AG, a world-leading exhibition company that owns multiple globally leading brand exhibitions, Hannover Messe has now become the world' s largest international industrial event, considered a "barometer of global industrial development" that guides world industrial development and innovation. In April 2013, driven by recommendations from German academic and industrial circles including the German Academy of Engineering, Fraunhofer Society, and Siemens, "Industry 4.0" was officially launched at Hannover Messe, sounding the clarion call

for the global transformation toward intelligent manufacturing. Through Hannover Messe, the "Industry 4.0" strategy has been widely accepted by countries worldwide, and Hannover Messe is regarded by governments and enterprises globally as an authoritative source for "Industry 4.0" orientation and solutions. Major initiators of "Industry 4.0"—such as Siemens, Bosch, and SAP—have used this platform to market their "Industry 4.0" equipment and system solutions worldwide.

Tsukuba World Exposition, Japan

The concept of holding a world exposition in Tsukuba was first announced on September 22, 1978. After approval by the Bureau International des Expositions (BIE), the theme was established in early 1980— "Dwellings and Surroundings: Science and Technology for Man at Home." In September 1981, Japan officially invited countries worldwide, and on June 20, 1982, held a countdown event for 1,000 days before the expo. From March 17 to September 16, 1985, the Tsukuba Science and Technology World Exposition was held in Tsukuba, Japan' s science city. This was Japan' s third world exposition, with 46 countries and 37 international organizations participating. Although the 1985 Tsukuba Expo organizers proposed goals such as "educating younger generations about the crucial role science and technology would play in the 21st century, providing governments and corporate exhibitors opportunities to develop and showcase their most advanced technological achievements, catalyzing the development of future knowledge-intensive industries and scientific breakthroughs, providing a forum for scientists and researchers worldwide to exchange scientific and technological information, and creating new scientific and technological cultures in fields like architecture, information utilization, urban planning, and energy conservation," the Japanese government' s primary goal in holding the expo in Tsukuba was to accelerate Tsukuba Science City' s development into an international scientific research and development center and enhance Tsukuba' s reputation as a "science city." By focusing global attention on this emerging city, the facilities and infrastructure built for the expo would help the city realize its potential and gradually become a research and development activity center for scientific research institutions and enterprises in Japan and Asia. After the Tsukuba Expo concluded, it was transformed into a national-level science and technology city, becoming Japan' s research center where many large enterprises' high-tech R&D institutions are located. Although the Tsukuba Expo did not become a permanent exhibition like Hannover Messe, its hosting played a crucial role in promoting Tsukuba Science City' s development, fully demonstrating the significance of hosting expos for regional development—experience worth learning from.

Davos Forum and Boao Forum

The World Economic Forum and Boao Forum for Asia are two highly influential international conferences. The predecessor of the World Economic Forum

was the "European Management Forum" established in 1971, also known as the "Davos Forum" because its annual meeting is held in the Swiss town of Davos. Its purpose is to study and discuss problems in the world economic field and promote international economic cooperation and exchange. Inspired by the Davos Forum, the Boao Forum for Asia was established in 2001 in Boao Town, Qionghai City, Hainan Province, and has become a high-level platform for government, business, and academic leaders from relevant countries to dialogue on important Asian and global affairs. These two international forums have greatly enhanced their host towns' visibility and promoted local economic development. For example, through hosting the Boao Forum for Asia, Boao has transformed from an unknown town into a famous tourist destination as the forum' s permanent site. Simultaneously, the Boao Forum has showcased Hainan' s image and elegance to tourists worldwide, enhanced Hainan' s international visibility and reputation, deepened business leaders' understanding of Hainan' s investment environment, and stimulated foreign investment growth in Hainan.

Recommendations for Planning the "Xiongan International Innovation and Development Expo"

The "Xiongan International Innovation and Development Expo" should be planned holistically regarding planning, construction, organization, promotion, and industrial development.

(1) Planning. The expo should be confirmed at an early stage. During Xiongan' s planning phase, infrastructure, exhibition hall design, and expo concepts should be planned and laid out around the expo, integrating it into overall plans such as the national economic and social development plan and urban master plan, as well as specialized plans for land use, transportation, environmental protection, and industrial development. This will make the expo an organic component of Xiongan' s economic, social, and urban layout, avoiding damage to the city' s overall layout through planning modifications and patchwork solutions after the new area' s formal layout is finalized.

(2) Construction. Adhering to "global vision, international standards, Chinese characteristics, and high-point positioning," and drawing fully on international experience, renowned domestic and international design institutions should be commissioned to design expo venues and supporting facilities, roads, and other infrastructure, making them highlights in Xiongan' s ecological urban landscape of "blue-green interweaving, freshness and brightness, and integration of water and city." Venue design should reflect the latest achievements in global technological development, centered on the positioning of a "world-class, green, modern, and smart city," and fully adopt new-generation information technologies such as big data, cloud computing, the Internet of Things, virtual reality, and artificial intelligence to build world-class, highly intelligent exhibition facilities.

(3) Organization. While fully leveraging the market's decisive role, the govern-

ment should also play its part effectively. An expo preparation group composed of relevant ministries including the National Development and Reform Commission, Ministry of Commerce, Ministry of Industry and Information Technology, Ministry of Science and Technology, Ministry of Foreign Affairs, and the Xiongan New Area Preparatory Committee should be established to coordinate and advance expo planning and venue construction. Drawing on Hannover Messe' s market-oriented operation experience, a "Xiongan International Innovation and Development Expo Company" should be established to operate the expo concretely. The expo company could adopt a mixed-ownership form, attracting international exhibition companies, central enterprises, local Xiongan enterprises, and private enterprises to participate jointly.

(4) Promotion. An expo council should be established, inviting influential politicians from various countries and renowned domestic and international enterprises to join, creating a high-end positioning for the expo and using them to expand its influence. Television, newspapers, magazines, new internet media, industry associations, and exhibitions should be fully utilized for advance promotion to expand the expo' s visibility. Based on global technological and industrial transformation trends and the achievements and needs of China' s high-end manufacturing development, expo themes should be scientifically formulated to enhance the expo' s attractiveness. Additionally, applying to host a World Expo in Xiongan with a theme highlighting technological innovation and development could be considered to further build the "Xiongan International Innovation and Development Expo" brand using the World Expo' s influence.

(5) Industrial Development. The fundamental purpose of hosting the "Xiongan International Innovation and Development Expo" is to promote Xiongan' s industrial and economic development. Therefore, industries for Xiongan' s future cultivation and development can be selected around the expo theme. The rise of these new industries will make Xiongan not only a world-class "exhibition" platform but also a pilot, experimental, and demonstration platform for new technology and industry development. For example, a "driverless vehicle" special zone could be established in Xiongan, where road networks, vehicles, and road control systems are all designed and built according to Level 4 driverless vehicle standards, enabling the comprehensive adoption of driverless vehicle technology in Xiongan first and consequently stimulating the agglomeration and development of driverless vehicle R&D, design, and service enterprises.

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Note: Figure translations are in progress. See original paper for figures.